In the United States Patent and Trademark Office

Serial Number:	10/728779		
Application. Filed:	December 8, 2003		
Applicant:	Kia Silverbrook		
Application Title:	HEAT DISSIPATION WITHIN THERMAL INK JET PRINTHEAD		
Examiner/GAU:	Jason S Uhlenhake		2853
		Dated	March 30, 2007
		At:	Balmain, NSW
		Docket No.	MTB14US

REPLY

Commissioner for Patents
Washington, District of Columbia 20231

Dear Sir:
The Applicant thanks the Examiner for the Office Action dated February 23, 2007.

Claim Rejections – 35 USC 103(a)

The Applicant contests the Examiner's reasoning that the skilled person would have been motivated to combine the disclosures of Kubby and Agnastopoulos.

Kubby clearly teaches a suspended heater element which is *perpendicular* to the plane of the nozzle plate (see Figure 5). A problem with Kubby's arrangement is that ink droplets would be ejected at a skewed angle relative to the nozzle plate. This problem is avoided in the present invention, because the suspended cantilever beam heater element is arranged *parallel* with the nozzle plate.

Kubby evidently had it in mind that his perpendicular arrangement would not impede ink flow through the nozzle, but this is at the expense of skewed ink ejection. However, the present Applicant has understood that ink flow is not compromised if suspended heater elements are configured appropriately.

There is nothing within the disclosure of Kubby teaching the skilled person to arrange a suspended heater element (having both faces in contact with ink) as defined in the Applicant's claims. However, the Examiner considers that Agnastopoulos provides the skilled person with the necessary motivation.

The Applicant disagrees because Agnastopoulos teaches an entirely different means for ejecting ink. Whereas the present invention and Kubby use thermal actuation to generate a bubble inside the nozzle chamber, which forces ink from the nozzle (bubblejet actuation), Agnastopoulos relies entirely on reducing surface tension in a meniscus pinned across the nozzle opening. There is no bubblejet actuation whatsoever in Agnastopoulos.

In the Applicant's submission, the arrangement shown in Agnastopoulos does not provide the skilled person with any hint as to how he might improve on Kubby's design of inkjet nozzle. The skilled person knows that reducing surface tension would have little or no effect on how ink is ejected from Kubby's nozzle. The skilled person considering improvements to Kubby's nozzle would be concerned with, for example, how to generate bubbles more efficiently not how to reduce surface tension.

Given that Kubby and Agnastopoulos eject ink used entirely different methods, the Applicant submits that it is improper to combine their disclosures using hindsight knowledge of the present invention. Accordingly, the Applicant maintains that the present invention is not obvious.

It is respectfully submitted that all of the Examiner's objections have been successfully traversed. Accordingly, it is submitted that the application is now in condition for allowance. Reconsideration and allowance of the application is courteously solicited.

Very respectfully,

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